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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* LAWSON A. WOOD

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Appeal 2008-002593  
Application 10/649,932  
Technology Center 2400

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Decided: January 20, 2010

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Before HOWARD B. BLANKENSHIP, JOHN A. JEFFERY, and  
ST. JOHN COURTENAY III, *Administrative Patent Judges*.

COURTENAY, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1, 5-7, 13, 14, 17, 21-24, 27, 28, and 33-36. Claims 2-4, 8-12, 15, 16, 18-20, 25, and 26 have been cancelled. The Examiner indicates that claims 29-32 and 37 would be allowable if rewritten in independent form. (Ans. 2). We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

## STATEMENT OF THE CASE

### INVENTION

Appellant's invention is related generally to recognizing and distributing music. More particularly, the invention on appeal is directed to a method for recognizing a musical composition from a specimen that is provided by a customer who hums, sings, or vocalizes the specimen or picks the melody out on a simulated piano or other tone generator. Appellant's invention also permits a customer to preview a musical composition before distributing the composition to the customer over the Internet. (Spec. 1).

### ILLUSTRATIVE CLAIM

1. A method for distributing music over the internet, comprising the steps of:
  - (a) recognizing a plurality of musical compositions from a specimen vocalized by a person, by comparing a pattern derived from the specimen with patterns from a pattern library;
  - (b) sending information to identify the musical compositions in writing to the person over the internet;
  - (c) receiving a request from the person over the internet for an audio preview of one of the musical compositions, which has been selected by the person;
  - (d) sending a corrupted version of some or all of the selected musical composition to the person over the internet;
  - (e) receiving a request from the person over the internet for the selected musical composition without corruption; and

(f) sending the selected musical composition without the corruption to the person, wherein the person is provided with a set of keys to hear and choose from before vocalizing the specimen, and

wherein the pattern derived from the specimen comprises pitch information.

#### PRIOR ART

Wiser	US 6,385,596 B1	May 7, 2002
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Roger J. McNab et al., "The New Zealand Digital Library MELody inDEX," D-Lib Mag., May 1997, pp. 1-11 ("McNab").

#### EXTRINSIC EVIDENCE<sup>1</sup>

Wadhams	US 5,225,618	Jul. 6, 1993
Iwamura	US 6,188,010 B1	Feb. 13, 2001
Yamaura	US 6,287,124 B1	Sep. 11, 2001

#### THE REJECTION<sup>2</sup>

1. The Examiner rejected claims 1, 5-7, 13, 14, 17, 21-24, 27, 28, and 33-36 under 35 U.S.C. § 103(a) as unpatentable over the combination of Wiser and McNab.

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<sup>1</sup> We do not reach the issue of the Examiner's proffered extrinsic evidence in deciding this appeal. See *In re Hoch*, 428, F.2d 1341, 1342 n.3 (CCPA 1970) ("Where a reference is relied on to support a rejection, whether or not in a 'minor capacity,' there would appear to be no excuse for not positively including the reference in the statement of the rejection.").

<sup>2</sup> The Examiner has withdrawn the § 103 rejection set forth in the Final Rejection of claims 29-32 and 37. The Examiner indicates these claims would be allowable if rewritten in independent form. (Ans. 2).

#### ISSUES

Appellant argues specific limitations (App. Br. 5-10) that we address *infra*. The Examiner contends that each argued limitation is taught or would have been suggested by the combination of cited references or was well known in the art at the time of the invention. (Ans. 11-15). Based upon our review of the administrative record, we have determined that the following issues are dispositive in this appeal:

*Issue 1:* Under § 103, has Appellant shown the Examiner erred by finding that the combination of Wisner and McNab would have taught or suggested “wherein the person is provided with *a set of keys to hear and choose from* before vocalizing the specimen”? (Independent claim 1, emphasis added).

*Issue 2:* Under § 103, are the limitations argued by Appellant regarding claims 1, 14, 21, and 28 directed to nonfunctional descriptive material?

*Issue 3:* Under § 103, has Appellant shown the Examiner erred in rejecting claim 34 by finding that the combination of Wisner and McNab would have taught or suggested a person generating a musical specimen using an apparatus configured for sending and receiving information via a communication network?

Issue 4: Under § 103, has Appellant shown the Examiner erred in rejecting claim 33 by finding that the combination of Wisner and McNab would have taught or suggested “displaying the simulated musical instrument on a monitor that additionally displays a plurality of options for use by the person, the options including a record option, a play option, a back-up option, and a send option, the simulated musical instrument and the options being actuated by the person using a pointing device”?

Issue 5: Under § 103, has Appellant shown the Examiner erred in rejecting claim 35 by finding that the combination of Wisner and McNab would have taught or suggested “displaying on the screen a mapping that associates notes of the scale with keys of the keyboard”?

## FINDINGS OF FACT

In our analysis *infra*, we rely on the following findings of fact (FF):

### *The Wisner reference*

1. Wisner teaches an online music distribution system whereby audio data may be previewed prior to purchase over a public network. (Abstract).

### *The McNab reference*

2. McNab teaches that the user can sing or hum or play a few notes and search the tune in a database of 9,400 folk songs. (Abstract, page 1).
3. McNab teaches that the user gets back the notes in musical notation. (*Id.*).

4. McNab teaches that “[i]n some applications, it is desirable to tie note identification to a particular standard of tuning, such as A-440. For a melody retrieval application, however, it is often desirable to adapt to the user’s own tuning and tie note identification to musical intervals rather than to any standard.” (Page 4, ¶2).
5. McNab displays on a display screen a grand staff (including both the bass and treble clefs separated by middle C) that associates musical notes of the scale with musical notes such as Db, Gb, F, Gb, Bb, Ab, Gb, and Ab as shown in the bass clef portion of Figure 6. (Page 9).
6. McNab teaches that the user can listen to (i.e., play) the displayed tune (Page 8, last paragraph), and McNab also appears to show “loudspeaker” icons in Figure 6 that may be selected by the user to play the “best match” tunes. (Fig. 6, page 9).

#### PRINCIPLES OF LAW

“What matters is the objective reach of the claim. If the claim extends to what is obvious, it is invalid under § 103.” *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 419 (2007). To be nonobvious, an improvement must be “more than the predictable use of prior art elements according to their established functions.” *Id.* at 417.

Invention or discovery is the requirement which constitutes the foundation of the right to obtain a patent . . . unless more ingenuity and skill were required in making or applying the said improvement than are possessed by an ordinary mechanic acquainted with the business, there is an absence of that degree of skill and ingenuity which constitute the essential elements of every invention.

*Dunbar v. Myers*, 94 U.S. 187, 197 (1876) (citing *Hotchkiss v. Greenwood*, 52 U.S. 248, 267 (1850)) (*Hotchkiss v. Greenwood* was cited with approval by the Supreme Court in *KSR*, 550 U.S. at 406, 415, 427).

Appellant has the burden on appeal to the Board to demonstrate error in the Examiner's position. *See In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006). Therefore, we look to Appellant's Briefs to show error in the Examiner's proffered prima facie case.

#### CLAIM GROUPING

Based on Appellant's arguments in the Appeal Brief, we will decide the appeal on the basis of claims 1, 14, 21, 28, 33, 34, and 35. *See* 37 C.F.R. §41.37(c)(1)(vii).

#### ANALYSIS

At the outset, we consider Appellant's arguments in the Briefs only to the extent that such arguments are directed to claimed subject matter.<sup>3</sup>

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<sup>3</sup> Patentability is based upon the claims. "It is the claims that measure the invention." *SRI Int'l v. Matsushita Elec. Corp. of Am.*, 775 F.2d 1107, 1121 (Fed. Cir. 1985) (en banc). A basic canon of claim construction is that one may not read a limitation into a claim from the written description. *Renishaw plc v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998).



### Issue 1

We decide the question of whether Appellant has shown the Examiner erred in rejecting independent claim 1 by finding that the combination of Wisner and McNab would have taught or suggested “wherein the person is provided with *a set of keys to hear and choose from* before vocalizing the specimen. (Independent claim 1, emphasis added).

Appellant contends that even if the person elects to play the musical specimen using an acoustic instrument and thus uses a microphone to pick up the notes, there is no reason why this person would abandon his original intention to play the sample and decide to sing or hum it instead. (App. Br. 6, last paragraph). Appellant further avers that because McNab is capable of handling either standard tuning (e.g., concert A-440)<sup>4</sup> or the user’s own tuning, the McNab reference would not have motivated an artisan to provide a person who wanted to vocalize a specimen with “a set of keys to hear and choose from.” (App. Br. 7; *see also* claim 1).

The Examiner responds that because McNab suggests humming or playing a few notes (Abstract), it is reasonable for an artisan to have explored the option of playing a keyboard followed by humming a sample of the music to see which method produces a better result. (Ans. 9). The Examiner also avers that an artisan may use a keyboard to tune his own voice. (*Id.*).

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<sup>4</sup> See FF 4.

We find the Examiner presents the stronger argument. We note that the Supreme Court has stated that courts should “take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR*, 550 U.S. at 418.

This reasoning is applicable here. We find McNab inherently teaches the use of an instrument because McNab expressly discloses that the user can sing or hum or play a few notes and search the tune in a database of songs. (FF 2). Therefore, we find an artisan possessing creativity and common sense would have known that if they could play an instrument to provide a melody to be searched and matched by McNab’s invention (FF 2), that they could also use an instrument to provide a key (i.e., pitch or scale) reference if they decided to sing or hum the melody.

Because different individuals have different natural vocal ranges, we find that using an instrument to provide a key reference best suited to one’s own vocal range would have been readily obvious to an artisan at the time of the invention. We further conclude that a “set of keys” can consist of a single key or all the available keys (or any subset thereof); these “keys” (pitch or scale references) being readily accessible on any common instrument, such as a piano or a guitar.<sup>5</sup>

In addition, we find Appellant’s arguments for patentability regarding the claimed set of keys (heard by a person) are predicated on nonfunctional descriptive material. *See* our discussion of Issue 2 *infra*. For at least these

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<sup>5</sup> Under basic set theory, a set may consist of the empty set, or a set containing one or more elements.

reasons, we find Appellant has not sustained the requisite burden on appeal in providing arguments or evidence persuasive of error in the Examiner's obviousness rejection of independent claim 1.

## Issue 2

We decide the question of whether the specific limitations argued by Appellant for claims 1, 14, 21, and 28 are directed to nonfunctional descriptive material.

In a precedential decision, an expanded panel recently held that elements that do not affect the claimed process are nonfunctional material and are merely descriptive. *See Ex parte Nehls*, 88 USPQ2d 1883, 1887-88 (BPAI 2008) (precedential) *available at* <http://www.uspto.gov/web/offices/dcom/bpai/prec/fd071823.pdf>.

We note that functional descriptive material consists of data structures or computer programs which impart functionality when employed as a computer component. In contrast, nonfunctional descriptive material refers to data content that does not exhibit a functional interrelationship with the substrate and does not affect the way the computing processes are performed. *See* MPEP § 2106.01 (“‘Nonfunctional descriptive material’ includes but is not limited to music, literary works, and a compilation or mere arrangement of data.”) (emphasis added). Thus, musical elements such as keys (pitch or scale references), musical specimens (melodies), and the like (that are generated and heard by a person) are nonfunctional descriptive material per se. (*See* the “set of keys” limitation recited in claim 1 and discussed *supra*).

Regarding independent claims 14 and 21, Appellant contends that the recited “codes” distinguish over the Examiner’s proffered combination of Wisner and McNab. (App. Br. 7-8). We note that claim 14 recites step (a) where a person picks out a “musical specimen . . . the specimen comprising codes to identify the notes picked out . . .” (underline added). However, nothing in the language of claim 14 positively recites that the claimed “codes” (representing the musical specimen) are used to perform or affect any computer-implemented function. We also find the argued language of claim 21 (“sending codes that identify notes in the specimen”) does not perform or affect any computer-implemented function. In particular, we find the type (or arrangement) of codes sent does not affect the recited step of sending.<sup>6</sup>

Therefore, we find the functionality of the computer is not changed or performed differently according to the particular “codes” that represent a sequence of musical notes (i.e., a musical specimen) within the meaning of independent claims 14 and 21. As to independent claim 1 (discussed *supra*), we find Appellant’s arguments for patentability regarding the recited “set of keys” (that are heard by a person) are also predicated on nonfunctional descriptive material.

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<sup>6</sup> *But cf.* Appellant’s instant claimed “codes” with a functional MIDI (Musical Instrument Digital Interface) keycode that corresponds to a particular note on an instrument that can be read by a computer to play or reproduce that particular note (and thereby affect a computer-implemented function), in a manner analogous to the function of a player piano roll that utilizes punched holes in a paper roll to code musical notes to be reproduced by a machine (player piano).

Turning to dependent claim 28, Appellant similarly presents arguments regarding the “tempo” provided to the person for vocalizing the (musical) specimen. (App. Br. 9). We find a “tempo” heard by a person is nonfunctional descriptive material. We note that claim 28 and claim 1 (from which claim 28 depends) do not positively recite any machine functionality that is involved in generating the “user-adjustable tempo,” which we conclude could have been provided (and adjusted) by a person tapping the musical tempo within the meaning of claim 28 (and claim 1).

The content of such nonfunctional descriptive material is not entitled to weight in the patentability analysis. Because Appellant's arguments concerning the “codes,” “set of keys,” and musical “tempo” limitations would require us to give weight to nonfunctional descriptive material, we find Appellant has not met his burden of showing error in the Examiner's specific findings of fact. Accordingly, we sustain the Examiner's obviousness rejection of independent claims 1, 14, and 21, and also associated dependent claims 5-7, 13, 17, 22-24, and 27 (not argued separately) which fall therewith. For the same reason, we sustain the Examiner's obviousness rejection of dependent claim 28 (argued separately).

### Issue 3

We decide the question of whether Appellant has shown the Examiner erred in rejecting independent claim 34 by finding that the combination of Wisner and McNab would have taught or suggested a person generating a musical specimen using an apparatus configured for sending and receiving information via a communication network.

Appellant contends that nothing in McNab would have led an ordinarily skilled person who wanted to improve Wiser's system in some way to generate a (musical) specimen using an apparatus configured for sending and receiving information via a communication network. (App. Br. 8).

The Examiner responds, *inter alia*, that McNab does not restrict itself to the use of a specific instrument. (Ans. 11).

We note that Wiser teaches sending and receiving music over a communications network. (FF 1). We found *supra* that McNab inherently teaches the use of an instrument to provide a melody to be searched and matched by McNab's invention (FF 2). We further note that "[t]he test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art." *In re Young*, 927 F.2d 588, 591 (Fed. Cir. 1991) (citing *In re Keller*, 642 F.2d 413, 425 (CCPA 1981)). Moreover, "when a patent 'simply arranges old elements with each performing the same function it had been known to perform' and yields no more than one would expect from such an arrangement, the combination is obvious." *KSR*, 550 US at 417 (citing *Sakraida v. AG Pro, Inc.*, 425 U.S. 273, 282 (1976)).

This reasoning is applicable here. Because we find familiar elements such as a musical instrument (apparatus) and a network for sending/receiving music would have been readily combinable by an artisan using known methods to obtain predictable results, we agree with the Examiner's legal conclusion that Appellant's claim 34 would have been

obvious to an artisan having knowledge of the combined teachings and suggestions of Wisner and McNab. Therefore, we find Appellant has not sustained the requisite burden on appeal in providing arguments or evidence persuasive of error in the Examiner's § 103 rejection of claim 34.

#### Issue 4

We decide the question of whether Appellant has shown the Examiner erred in rejecting dependent claim 33 by finding that the combination of Wisner and McNab would have taught or suggested “displaying the simulated musical instrument on a monitor that additionally displays a plurality of options for use by the person, the options including a record option, a play option, a back-up option, and a send option, the simulated musical instrument and the options being actuated by the person using a pointing device.”

In the Brief, Appellant merely recites the aforementioned language, and states that “Section 9” of the Final Rejection takes the position that this would have been obvious, without identifying any particular item of prior art or offering an explanation as to why an ordinarily skilled person who wanted to improve Wisner/McNab would have been drawn to this prior art. (App. Br. 9).

We note that the Examiner provides a detailed response on pages 12-13 in the “Response to Arguments” section of the Answer. In particular, the Examiner finds that McNab does not tie the “playing” option to any specific instrument (thus suggesting that any instrument could be used). (Ans. 12, ¶3; *see also* FF 2). We agree with the Examiner's findings.

The Appellant's Reply Brief (filed Nov. 19, 2007) incorporates by reference a series of earlier Reply Briefs that refer to the Reply Brief filed Nov. 6, 2006 that asserts the Examiner has relied on impermissible hindsight in formulating the obviousness rejection of claim 33. (*See* Reply Brief filed Nov. 6, 2006, page 3).

While we are fully aware that hindsight bias often plagues determinations of obviousness, *Graham v. John Deere Co.*, 383 U.S. 1, 36 (1966), we are also mindful that the Supreme Court has clearly indicated that “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results,” *KSR*, 550 U.S. at 416.

This reasoning is applicable here. We find that McNab at least temporarily stores the melody provided by the user for comparison with the database of 9,400 songs (FF 2); therefore, we find McNab must necessarily record the user's sampled melody for storage. We also note that McNab teaches that the user can listen to (i.e., play) the displayed tune, and McNab also appears to show “loudspeaker” icons that may be selected by the user to play the closest matching tunes. (Fig. 6, FF 6). Thus, we find McNab at least suggests the claimed record, play, and backup options. (Claim 33). Wiser teaches sending music over a network, which we find teaches or would have suggested the recited “send” option. (FF 1; claim 33).

While the Examiner has introduced extrinsic evidence to support his legal conclusion of obviousness (Wadhams; *see* Ans. 13), we need not address Wadhams to reach a finding that the weight of the evidence supports the Examiner's determination that the claimed simulated musical instrument, and the recited record, play, backup, and send options that can be actuated



by a pointing device (e.g., a mouse) would have each been well within the level of knowledge possessed by an artisan having the benefit of Wisner and McNab at the time of the invention.

Appellant's arguments are not persuasive since the Examiner need not show "precise teachings directed to the specific subject matter of the challenged claim" and can take into account "the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR*, 550 U.S. at 418. Therefore, we find Appellant has not sustained the requisite burden on appeal in providing arguments or evidence persuasive of error in the Examiner's § 103 rejection of claim 33.

#### Issue 5

We decide the question of whether Appellant has shown the Examiner erred in rejecting dependent claim 35 by finding that the combination of Wisner and McNab would have taught or suggested "displaying on the screen a mapping that associates notes of the scale with keys of the keyboard."

Appellant contends that these limitations would not have been obvious or well known to an artisan having knowledge of McNab. (App. Br. 9-10).

We find McNab displays on a display screen a grand staff (including both the bass and treble clefs) that associates musical notes of the scale (D-flat major, as clearly indicated by the key signature having five flats) with specific musical notes such as Db, Gb, F, Gb, Bb, Ab, Gb, Ab, as clearly shown in the bass clef portion of Figure 6 (FF 5). Because a piano keyboard also contains each of the notes (Db, Gb, F, Gb, Bb, Ab, Gb, and Ab)

depicted in the bass clef portion of the grand staff of McNab (FF 5; Fig. 6), we find the combination of Wiser and McNab clearly teaches “displaying on the screen a mapping that associates notes of the scale with keys of the keyboard.”

Clearly, such “mapping” from the notes of the musical staff to the corresponding notes on an instrument is the essence of musical notation that has evolved over the centuries. (*See* FF 3 and 5). Therefore, we agree with the Examiner’s legal conclusion that the subject matter of Appellant’s claim 35 would have been obvious to an artisan having knowledge of Wiser and McNab. Accordingly, we find Appellant has not sustained the requisite burden on appeal in providing arguments or evidence persuasive of error in the Examiner’s § 103 rejection of claim 35.

### CONCLUSION

Appellant has not shown the Examiner erred in rejecting claims 1, 5-7, 13, 14, 17, 21-24, 27, 28, and 33-36 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Wiser and McNab.

**ORDER**

We affirm the Examiner's decision rejecting claims 1, 5-7, 13, 14, 17, 21-24, 27, 28, and 33-36 under 35 U.S.C. § 103(a).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

**AFFIRMED**

pgc

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